

*Sorkin, I.E.*  
SORKIN, I.E., prof.; MELESHKEVICH, M.P., kand.med.nauk; GRINCHAR, A.N.;  
SOLDATOV, V.Ye.

Treatment of tuberculous meningitis in adults without subarachnoid  
injection of drugs [with summary in French]. Probl.tub. 34 no.5:  
13-19 S-O '56. (MIRA 10:11)

1. Iz meningitnogo otdeleniya dlia vzroslykh (zav. - prof. I.E.  
Sorkin) Gosudarstvennogo nauchno-issledovatel'skogo instituta tuber-  
kuleza Ministerstva zdravookhraneniya RSFSR (dir. V.F.Chernyshev, zam.  
direktora po nauchnoy chasti-prof. D.D.Aseyev)  
(TUBERCULOSIS, MENINGEAL, ther.  
streptomycin, without subarachnoid admin.)  
(STREPTOMYCIN, ther. use  
tuberc., meningeal, without subarachnoid admin.)

SORKIN, I.E., prof.; BELOSLYUD, Ye.G.; UNSOV, I.G.; SHINDER, I.S.

Results of antibacterial therapy of chronic fibrocavernous pulmonary tuberculosis. Probl. tub. no.8:75-88'62. (MIRA 16:9)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR i Kliniskogo protivotuberkuleznogo dispansera Moskovskoy oblasti.  
(KLIN—TUBERCULOSIS) (CHEMOTHERAPY)

SORKIN, I.E., prof. (Moskva)

Detection and treatment of tuberculous meningitis. Sov. med. 27 no.  
3:53-59 Mr '64. (MIRA 17:11)

CORBIN, I.F., prof. (Moskva)

Review of the activity of the international symposium on the effectiveness of antibacterial treatment of tuberculosis with the basic preparations. Probl. tub. 42 no. 197-201 '64.  
(MIRA 1975)

KHEFYETS, G.N., kand. tekhn. nauk; YANKOVSKIY, V.M., kand. tekhn. nauk;  
SORKIN, I.I., kand. tekhn. nauk; KADINOVA, A.S., inzh.; FEYGLIN,  
V.H., inzh.; TIKHONVUK, A.N., inzh.; SHEKUBENKO, A.A., inzh.;  
KHOMENKO, A.G., inzh.

Steam hardening of high-capacity cylinders. Stal' 25 no.8:849-  
852 S '65. (MIRA 18:9)

SURKIN, I. M.

2A

2A

Measurement of frequency modulation coefficient.  
 DLUGACH, G. V., and SURKIN, I. M. Radiotekhnika, 1,  
 2-48 (Sept.-Oct., 1967) 21-22. 2 refs. —The following  
 methods are discussed and critically compared:  
 (1) Crank's method of observing zero amplitude roots  
 of the relevant Bessel function; (2) oscillographic  
 methods, involving observation of the pulsing ellipses or  
 the stationary ellipses, the f.m. source under investigation  
 being applied to one pair of plates, and a signal generator  
 to the other, and the frequency deviation being measured  
 either by the width of the pulsing ellipses or by the fre-  
 quency swing of the auxiliary generator between two  
 brightness maxima of the stationary ellipses; (3) electronic  
 frequency meter (pulse counter); and (4) deviation meter  
 with discriminator-detector. A. L.

ASB 56.4 METALLURGICAL LITERATURE CLASSIFICATION

SORKIN, I. M.

621.317.36 : 621.396.619.13 1404  
Measurement of the Deviation Ratio in F.M.  
G. V. Dlugach & I. M. Sorkin. (*Radiotekhnika*,  
Moscow, 1947. No. 7. pp. 25-40. In Russian.)  
Various methods are surveyed and formulae derived  
for determining errors when a frequency meter or  
an oscilloscope is used. The frequency detector  
method is also discussed. A detector similar to  
that proposed by Summerhayes (595 of 1943) is  
briefly described.

SOV/115-59-5-21/27

28(2)

AUTHOR:

Sorkin, I.M.

TITLE:

Errors of the "Deviometer" and Methods of Their Verification

PERIODICAL:

Izmeritel'naya Tekhnika, 1959, Nr 5, pp 48-52 (USSR)

ABSTRACT:

The author states, that frequency modulation in telecommunications was the reason to construct a "deviometer", a device to control the frequency deviations. The usual error of the "deviometer" is 5 - 10%. The Committee of Standards, Measures and Measuring Instruments (Komitet standartov, mer i izmeritel'nykh priborov) has given official instructions for the verification of deviometers. Fig.1 shows the block diagram of the deviometer. It works in the following way: The frequency modulation signal, which is to be measured, will be converted into a low frequency voltage. Its amplitude is proportional to the deviation of the frequency. The errors of the deviometer are: 1) errors of the amplifier system; 2) errors of the restrictor; 3) errors of the frequency detector and 4) errors of the valve voltmeter. The errors can be verified in a dynamic state by the method of Crosby and in a static state.

Card 1/2



SOV/115-59-5-21/27

Errors of the "Deviometer" and Methods of Their Verification

The author gives an example for verification in a static state with frequency modulation I.Ch. M-5. The errors of this verification are: 1) error of the heterodyne voltmeter (0.001%); 2) error of the control voltmeter (2.5%). There are 2 graphs, 3 block diagrams and 12 equations.

Card 2/2

GRIBANOV, Yuriy Ivanovich; SORKIN, I.M., red.; BUL'DYAYEV, N.A.,  
tekhn. red.

[Measurement of weak currents, charges, and high resistances]  
Izmerenie slabykh tokov, zaryadov i bol'shikh soprotivlenii.  
Moskva, Gosenergoizdat, 1962. 79 p. (MIRA 16:5)  
(Electric measurements)

L 17817-63

BDS

ACCESSION NR: AP3004950

S/0108/63/018/008/0049/0054

AUTHOR: Sorkin, I. M. (Member of the Society, see "Association")

TITLE: Measuring instrument as a source of information

SOURCE: Radiotekhnika, v. 18, no. 8, 1963, 49-54

TOPIC TAGS: measuring instrument, M136 microammeter, information

ABSTRACT: Based on the theory of information, a mathematical study is presented of an indicating instrument operating under fluctuating conditions; the instrument reading varies within a limited range responding to variations of the measurand under the influence of random factors. It is shown that the quantity of information carried by a single reading is determined by the instrument accuracy and decreases with the increase of noise. The maximum quantity of information supplied by the instrument per unit time depends on its accuracy and on the frequency of natural oscillations of its moving element. It is recommended, for

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L 17817-63

ACCESSION NR: AP3004950

an instrument operating under fluctuating conditions, that the moment of inertia be the lowest possible and the restoring torque gradient the highest possible; this results in minimum damping time, higher accuracy, and, therefore, maximum information per unit time. Orig. art. has: 1 figure and 25 formulas.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi  
(Scientific and Technical Society of Radio Engineering and Electrocommunication)

SUBMITTED: 23Apr62

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: CO, IE

NO REF SOV: 005

OTHER: 000

Card 2/2

KHUTKOVSKIY, G. I., 1965, 1. V. , 1965.

Experiment on the permeability of gas in the  
ventilation and air heating systems, 1965, 1. V. , 1965.  
n. 18-19. 1965. (MIR 18:8)

L 20775-66 EWT(d)/EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(l)/ETC(m)-6 JD/HW

ACC NR: AP6004682

SOURCE CODE: UR/0182/65/000/010/0041/0042

AUTHOR: Ryzhikov, A. A.; Zhuravlev, V. N.; Sorkin, L. D.

ORG: none

TITLE: Die casting of die inserts

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 10, 1965, 41-42

TOPIC TAGS: molten metal forging, die, die insert, tool steel, metal casting/5KhNT tool steel

ABSTRACT: By contrast with the pressure die casting of nonferrous alloys and carbon steel, the die casting of tool steel still remains relatively uninvestigated. In this connection, the authors investigated the process of the pressure die casting of 5KhNT tool steel into swaging-die inserts by means of a device designed and built for mounting in 60 and 200-ton hydraulic presses equipped with anti-spatter shields. Of the various die assemblies tested, the one shown in Fig. 1 proved to be of the most suitable design. In this die assembly die 6 is mobile; when open, it is caused by springs 8 to rise to as high a position as is permitted by the limiting screws 9. Then the lower plane of the die does not rise above the level of the upper surface of bottom 10. After the molten metal is poured into the cavity, punch 2 descends together with yoke 3. As the descent of the punch continues, the die begins its descent, thus compressing the springs 8. The punch, by occupying the volume

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UDC: 621.984.1

I. 20775-66

ACC NR: AP6004682

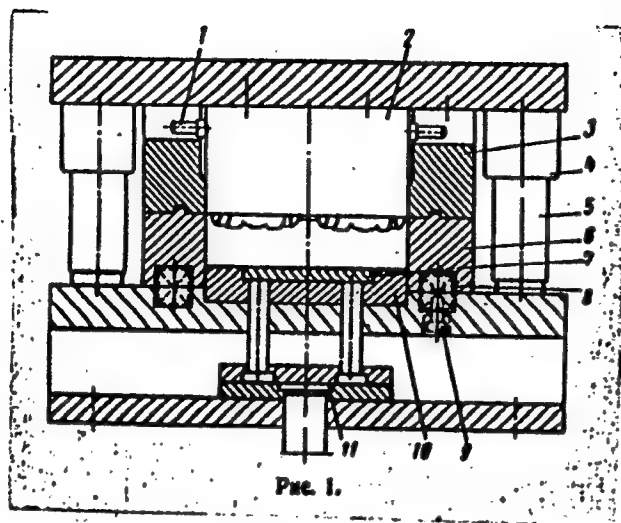


Figure 1.

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L 20775-66

ACC NR:AP6004682

2

previously occupied by the molten metal causes the latter, to get displaced upward until the cavity is completely filled. The solidification of the metal takes place under pressure. After this, the upper part of the die assembly is raised and the product is ejected from the die. The punch, die and other parts of the die assembly are housed in a frame consisting of lower and upper bolsters, guide columns 5, bushings 5 and ejection system 11. Hollow rod 1 provides water for cooling the punch. The technique used for the die casting of inserts was as follows: 5KhNT steel was melted in an induction furnace and, at a temperature 1550-1600°C poured from a ladle into the die assembly. Through trial and error it was found that reducing the thickness of the thus cast die inserts from 55 to 40 mm and increasing the pressure on the metal to 6-8 kg/mm<sup>2</sup> virtually eliminates shrinkage porosity in the casting. The cast inserts ejected from the die are cooled and thereupon annealed at 860°C for 2 hours and at 760°C for 2.5 hours. They have a compact fine-grained structure and display a more uniform cross section than die inserts fabricated by conventional casting. Operating trials (at a forging shop, in a 1600-ton forging press) showed that the quality of die inserts produced by the die casting method is equal to that of the inserts produced by the forging method. What is more, production of the inserts by this new technique saves scarce tool steel, since they can be cast from the wastes of the press and forging shop. In addition, the tolerances are then reduced, thus reducing the weight of the blank and the volume of its subsequent machining. Orig. art. has: 4 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Cord 3/3 vmb



AYZENBERG, G.I., inzh.; SORKIN, L.F., inzh.

Drum feeders for conveying burnt earth from knockout gratings  
through bunkers to band conveyers. Mash.Bel. no.5:106-108  
'58. (MIRA 12:11)

(Foundry machinery and supplies)

SORKIN, L.F.

The MS-16 special-purpose planing machine. Biul.tekh.-ekon.  
inform. no.1:18-19 '60. (MIRA 13:5)  
(Planing machines)

S/193/61/000/008/005/007  
A004/A101

AUTHOR: Sorkin, L.F.

TITLE: Model 3510 plano-grinding machine

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 8, 1961, 42-45

TEXT: The Minskiy stankostroitel'nyy zavod im. Voroshilova (Minsk Machine Tool Plant im. Voroshilov) has designed and fabricated in 1960 a pilot model of the 3510 plano-grinding machine belonging to the group of unified plano-milling, parallel-planing and plano-grinding machines produced by this Plant under the current Seven-Year Plan. The machine has two grinding stocks, one of them operating with the periphery of a flat or profiled grinding wheel, the second with the face end of a cup-shaped wheel. The transverse arm has a special device for the correction of the transverse arm position checked with the aid of a level. The table is driven by a reversible d-c motor via a worm reducer and a worm-and-rack transmission. The automatic control of the table travel and the adjustment of the table stroke length is effected from a special control panel on the table drive reducer. The horizontal grinding stock is mounted on antifriction bedways which ensures a high displacement accuracy of the grinding stock (up to 2.5 ).

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S/193/61/000/008/005/007  
A004/A101

Model 3510 plano-grinding machine


A pressure relay is fitted in the stock to make sure that the motor is switched on only after the oil pressure exceeds 0.3 - 0.5 atm. A grinding wheel dressing device is mounted on the horizontal grinding stock. Dressing is carried out with the aid of a copying device which is changed depending on the wheel profile. A feed mechanism mounted on the face end of the transverse arm makes it possible to carry out the following operations: manual stock displacement, setting displacement of the stocks at a controlled speed, intermittent transverse feed of the stocks, continuous transverse feed at controlled speeds. The model 3510 plano-grinding machine ensures a machining accuracy of parts according to GOST (GOST) 11-59. The planeness of the machined surface amounts to 0.012 mm over a length of 1,000 mm in longitudinal direction and 0.015 mm over a length of 1,000 mm in transverse direction. The parallelism of the upper finished surface relative to its base amounts to 0.01 mm over a length of 1,000 mm and 0.03 mm over a length of 4,000 mm. The following technical specifications are given: maximum dimensions of parts being machined (length x width x height) - 4,000 x 1,000 x 800 mm; grinding stocks: motor power - 20 and 2.8 kw respectively; wheel dimensions - 600 x 150 x 305 and 150 x 50 mm respectively; range of continuous transverse feeds - 48 - 2,400 mm min (for the stock with horizontal spindle);

Card 2/3

Model 3510 plano-grinding machine

S/193/61/000/008/005/007  
A004/A101

range of intermittent transverse feeds - 3 - 75 mm (for the stock with horizontal spindle); range of automatic vertical feeds - 0,0025 - 0,1 and 0,0025 - 0,05 mm respectively; angle of stock turning -  $\pm 90^\circ$ ; table travel speed - 2 - 25 m/min; overall dimension of machine (length x width x height) - 13,260 x 5,400 x 3,550 mm; weight - 44,850 kg. In its technical characteristics this machine is not inferior to similar machines manufactured by the leading foreign firms. There is 1 figure.



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S/193/62/000/003/003/005  
A004/A101

AUTHOR: Sorkin, L. F.

TITLE: Model 3510 B (3510V) double-column parallel grinder

PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 3, 1962, 30 - 32

TEXT: The Minskiy stankostroitel'nyy zavod (Minsk Machine Tool Plant) has developed the 3510V double-column parallel grinder and built the first prototype in 1961. The grinder is intended for the machining of large-size surfaces of plates, dies, etc. The table carries out reciprocating motions on flat and V-shaped bedways mounted on a base plate. The table travel speed can be steplessly regulated. The table working length and the automatic control of the machine operation cycle is effected from a special control panel. A lubricating station in the table bed feeds the lubricant to the bedways. The author presents a brief description of the spindle stock and spindle stock carriage arrangement and gives the following technical data: maximum dimensions of component being machined (length x width x height) - 3,500 x 1,000 x 800 mm; table work area (length x width) - 3,500 x 900 mm; grinding stock motor power - 28 kW; range of automatic

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Model 3510 B (3510V) double-column parallel grinder

S/193/62/000/003/003/005  
A004/A101

vertical feeds - 0.005-0.2 mm/stroke; table travel speed - 2-25 m/min; overall dimensions (length x width x height) - 13,300 x 4,100 x 3,550 mm; weight - 43 tons. The spindle stock travel mechanism is equipped with a device for the setting of the allowance to be removed; after removal of the required allowance, the automatic feed is switched off by a stop fixed on the limb. The grinder cooling system is fitted with a magnetic separator for purifying the cutting fluid. The 3510V grinder belongs to the series of standardized planers, parallel grinders and plano-milling machines developed by the Plant during the current Seven-Year Plan. There is 1 figure.

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Card 2/2

ZUBKOV, A.I. (Moskva); SORKIN, L.I. (Moskva)

Effect of viscosity on the flow in the area of a direct compression shock. Izv. AN SSSR. Otd. tekhn. nauk, Mekh. i mashinostr.

no. 1:114-120 Ja-F '61.

(MIRA 14:2)

(Fluid dynamics)

(Shock waves)



L 01233-66 EWP(m)/EWT(1)/FCS(k)/EWA(d)/EWA(1)

ACCESSION NR: AP5021721

UR/0373/65/000/004/0165/0168

AUTHORS: Ashratov, E. A. (Moscow); Sorokin, L. I. (Moscow)

34  
BTITLE: Supersonic viscous flow over an external angle

SOURCE: AN SSSR. Izvestiya. Mekhanika, no. 4, 1965, 165-168

TOPIC TAGS: supersonic flow, boundary layer, Prandtl Meyer expansion, pressure distribution, wind tunnel, experimental method

ABSTRACT: Experimental and analytical studies were conducted to determine the flow of a supersonic air stream over an expansion corner (see Fig. 1 on the Enclosure) with expansion angles  $\alpha = 5, 10$ , and  $15^\circ$ . The model used was a thin wedge 90 mm wide at Mach numbers of 2.42 and 2.63 and  $Re = 8.3 \times 10^6$ . The boundary layer over the wedge surface was assumed to be turbulent. Calculated results and the experimental data of the pressure ratio along the wedge surface and over the corner are shown in Fig. 2 on the Enclosure. It can be seen that for all these values of  $\alpha$  ( $1 = 5^\circ$ ,  $2 = 10^\circ$ ,  $3 = 15^\circ$ ) the pressure ratio first shows a rise at the corner, followed by a gradual decrease to their asymptotic values. Furthermore, the agreement between theory and experiment is satisfactory. Reasonably good agreement was also obtained for a plot of  $L/\delta^*$  versus expansion angle ( $\delta^*$  - displacement thickness).

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L 01233-66

ACCESSION NR: AP5021721

at corner). To determine the boundary layer characteristics after the expansion,  
the experimental data were correlated by the empirical expression

$$\lg \lambda = - / (\lg n) \quad (\lambda = a/s^*)$$

Orig. art. has: 7 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 29Jul64

ENCL: 01

SUB CODE: NE

NO REF SOV: 001

OTHER: 000

Card 2/3

L 01233-66  
ACCESSION NR: AP5021721

ENCLOSURE: 01

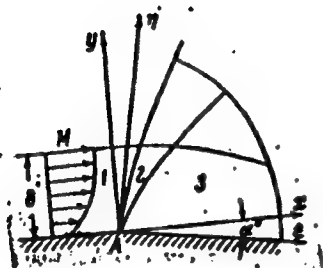


Fig. 1.

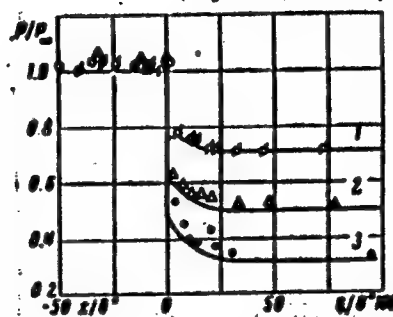


Fig. 2.

Card <sup>Kc</sup>  
3/3

SURKIN, I. V. (MIRA).

Increasing the durability of sector dies of forging rolls by  
means of electrolytic boron plating. Mashinostroenie no. 62  
23 Nov '64 (MIRA 1822)

L 3359-66 EWT(d)/EWP(e)/ENT(m)/RPF(c)/ENP(i)/EWP(v)/EPF(n)-2/T/EWP(t)/EWP(k)/EWP(h)/  
 ACC NR: AP5025603 EWP(h)/EWP(l) IJP(c) WW/ UR/0129/65/000/010/0055/0055  
 JD/JG/WB 621.785.53:621.191.3

AUTHOR: Sorkin, L. M. 4.55

TITLE: Eliminating the defects of electrolytic boronizing

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 10, 1965, 55,  
 and top half of insert facing p. 41

TOPIC TAGS: boronizing, electrolytic deposition, electrode, fused borax

ABSTRACT: An industrial installation for the electrolytic boronizing of rolling dies has been developed by the Lugansk Metal Pipe Plant in collaboration with the Lugansk Machine Building Institute. The service life of the dies thus treated has increased 5-8 times. However, this method of toughening the surface of work parts has as yet limited application, because it still has not been refined. In this connection, the author provides certain practical recommendations for improving the efficiency of electrolytic boronizing. Among other things, to avoid the deposition of lumps of borax and spongy iron on the work part, the boronizing should be performed in fused borax from which various impurities have been removed by first boronizing the crucible for 10-15 hr through a special procedure:

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ACC NR: AP5025603

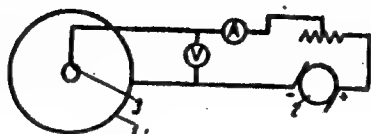


Fig. 1. Diagram of bath refining

1 - crucible; 2 - DC source; 3 - electrode

This not only eliminates the corrosion of the crucible by borax but also causes all the impurities present in the borax to settle on its walls. When the borax thus loses its turbidity and becomes clarified, the bath may be considered ready for operation. Other recommendations: the chemical composition of the borax must be checked to keep the Fe content of the bath at not more than 0.5%; the minimum distance between the work part and the electrode should be 15-20 mm; the cooling of the boronized work parts should be gradual, over 2-3 hr; the work parts operating under high unit pressures (e.g. rolling dies) should be hardened after boronizing; the dross appearing at the surface of molten borax should be periodically removed;

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L 3359-66

ACC NR: AP5025603

boronizing should not last too long (beyond 5 hr), as this may lead to peeling of the boronized case, due to the difference between the coefficients of linear expansion of the boronized case (iron borides) and base metal. Orig. art. has: 1 figure.

ASSOCIATION: Luganskiy mashinostroitel'nyy institut (Lugansk Machine Building Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM, G-C

NO REF SOV: 000

OTHER: 000

Card 3/3

RP

ACC NR: AP6009626  
IJP(c) JG/JD

SOURCE CODE: UR/0182/66/000/003/0008/0010

AUTHOR: Sorokin, L. M.

ORG: none

TITLE: Durability of boronized dies

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 3, 1966, 8-10

TOPIC TAGS: DIE, BORON STEEL, DURABILITY; hot die forging, hot rolling, alloy steel, boride, microhardness, surface hardening, metallographic examination / U8 steel, 30KhGSA steel, 5KhNV steel, 8Kh3 steel, U12 steel

ABSTRACT: The effect of the quality of die material on the abrasion resistance of boronized die rolls made from U8, 30KhGSA, 5KhNV and 8Kh3 steels was studied. Tests were conducted under production conditions on SO-234 rolls of 250 mm diameter for the finish-rolling (120 rpm) of U12 steel heated to 950-1000°C. Boronizing was carried out at 900-950°C for 3.5 hrs. Subsequently, the dies were quenched in air or oil from 800-920°C and tempered at 370-520°C for 120-180 min. In all cases, the boronizing raised the die durability. The boronized alloy steels increased their die life 3.3 times while for boronized U8 steel the increase was 5.5 times; the average durability of dies made from U8 steel was 22,500 worked pieces and 14,870 pieces for the alloy steels. Microstructures of U8 steel were compared with those of 5KhNV steel. The boronized

UDC: 621.733.4

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L 41631-66

ACC NR: AP6009626

coating of U8 steel was more uniform and continuous than for 5KhNV steel. Alloy steel coatings were composed of FeB, Fe<sub>2</sub>B, B<sub>3</sub>C and large amounts of  $\alpha$ -phase embedded between boride needles. Since the microhardnesses of FeB and Fe<sub>2</sub>B were 1300-2400 kg/mm<sup>2</sup> and only 420-1170 kg/mm<sup>2</sup> for the  $\alpha$ -phase, the durability and heat resistance of U8 with a continuous boride coating were higher than for 5KhNV steel with only 30% boride. While steel carbon content did not affect the thickness of the boronized layer, alloying with Cr, W and Mn significantly decreased the diffusion rate of boron. Thus the maximum boronized depth of alloy steels did not exceed 0.03-0.08 mm; for Kh25N20S2 steel, the boronized layer did not form at all. Microhardnesses of worked and unworked die portions were given as functions of distance from the surface. Surface hardnesses of 1550-1650 kg/mm<sup>2</sup> were reported and the transition zone was usually 0.12 mm or more. Hot working did not affect the surface hardness whereas the interior of the metal decreased 10-15% in hardness. It was recommended that boronized surfaces be applied only to U7, U8 and U8A steels for use in hot-working dies. Orig. art. has: 4 figures, 1 table.

SUB CODE: 11,13/

SUBM DATE: none/

ORIG REF: 004

Card 2/2 hs



L 27600-66

ACC NR: AP6018411

SOURCE CODE: UR/0032/66/032/003/0377/0378

AUTHOR: Kobrin, M. M.; Proshko, V. M.; Sorkin, L. S.

41

ORG: Central Scientific Research Institute of Structural Designs (Tsentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy) B

TITLE: Use of analog computers to determine residual stresses

SOURCE: Zavodskaya laboratoriya, v. 32, no. 3, 1966, 377-378

TOPIC TAGS: stress analysis, digital computer, residual computer/MN-8 analog computer

ABSTRACT: The authors start out by stating that in an earlier article (Zavodskaya Laboratoriya, Vol 31, No 4, Apr 65, p 500) they reported the results of having used a digital computer to determine residual stresses. In this work they briefly described their results in an effort to determine the feasibility of using an analog computer to achieve the same data.

Residual stresses were determined for a steel cylinder (156 mm in diameter, 134 mm long) using an MN-8 analog computer. The cylinder had been surface cold-worked. Strain curves were plotted from experimental data obtained in the process of layer sectioning of the cylinder. This data was also stored in the computer. A structural diagram of the analog computer is given which shows the function of each block. Satisfactory coincidence of the stress strain-curves allowed the conclusion to be made that analog computers can be successfully used to determine residual stresses in materials. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 09, 20 / SUBM DATE: none / ORIG REF: 003

Card 1/1 CC

UDC: 681.142

SORKIN, M.

New mooring buoy. Mor.flot 19 no.11:44 N '59.  
(MIRA 13:3)

1. Starshiy pomoshchnik kapitana teplokhoda "Vil'nyus."  
(Anchorage)

SORKIN, M.

Activity of the group of seagoing ships of the White Sea-Omega Bay  
Steamship Line. Rech.transp. 20 no.4:59 Ap '61. (MIRA 14:5)  
(White Sea—Steamboat lines) (Omega Bay—Steamboat lines)

SORKIN, M.M.; GAVRILOVA, G.Ye.; MEZHUYEVA, Ye.A.; KOGAN, M.G.

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Causes of dark-colored ammonium sulfate in by-product coke plants.  
Koks i khim. no.1:55-56 '56. (MLRA 9:5)

1. Bagleyskiy koksokhimicheskiy zavod.  
(Ammonium sulfate)

DO NOT WRITE IN THESE SPACES

68-1-12/21

AUTHOR: Olovyanikov, Ye.Ye., Engineer, Sorkin, M.M. and  
Mezhuyeva, Ye.A.  
TITLE: A Simplified Design of the Gas-distributing Cone for  
Saturators. (Uproshchennaya konstruktsiya zonta saturatora)  
PERIODICAL: Koks i Khimiya, 1957, No.1, pp. 37 - 38 (USSR)

ABSTRACT: It is stated that the faolite cone distributor used at present in saturators for the production of ammonium sulphate, breaks easily due to its complicated design. The authors described a simplified design of the gas distributor which they tested on one of the operating saturators in the Bagley-skiy Coke Oven Works (Bagleyskiy Koksokhimicheskiy Zavod). The distributor consisted of a cylinder (forming prolongation of the gas main to the depth of normal cone) to which 30 directing plates were welded (figure, p.38). The addition of acid was done through a tube passing into the distributor, i.e. at gas inlet and not on gas outlet as in usual practice. Operating results of the saturator during the testing period are given in Table 1 and size distribution of the sulphate produced in Table 2. After the test (20 days) the distributor was dismantled and found to be free from salt sediments. It is concluded that the simplified design of distributor is satisfactory and is recommended as a replacement for cone-shaped

Card 1/2

YEVSTAF'YEV, A.Ye., kand. tekhn. nauk; KOTENKO, L.A.; SORKIN, M.M.

Operation of benzene and carbon disulfide columns in the distillation section. Koks i khim. no.1:47-49 '58. (MIRA 11:2)

1. Moskovskiy institut khimicheskogo mashinostroyeniya (for Kotenko).
2. Baglouskiy koksokhimicheskiy zavod (for Sorkin).  
(Coke-oven gas) (Benzene) (Carbon disulfide)



KOPTEV, G.P.; SORKIN, M.M.

Methods for a continuous denitration of sulfuric acid. Koks i khim.  
no.11:4C-42 '60. (MIRA 13:11)

1. Bagleyskiy koksokhimicheskiy zavod.  
(Coke-oven gas) (Sulfuric acid) (Denitration)

SORKIN, M.M.; PEDAN, A.A.; KOGAN, M.G.

Recovery of benzene hydrocarbons from tar acid and the removal of the residue with the water of hydrosol removers. Koks i khim. no. 3:49-50 '61. (MIRA 14:4)

1. Bagleyskiy koksokhimicheskiy zavod.  
(Dneprodzerzhinsk—Coke industry--By-products)  
(Coal tar products)

CHEN, N.G. , KOPTEV, G.P.; BEREZNITSKIY, S.G.; SORKIN, M.M.; BOYARSKAYA, R.R.

Preventing corrosion and scale formation in primary gas coolers.  
Koks i khim. no.9:49-53 '62. (MIRA 16:10)

1. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz (for Chen).
2. Bagleyskiy koksokhimicheskiy zavod (for Koptev, Bereznitskiy, Sorkin, Boyarskaya).

(Cooling towers)

(Corrosion and anticorrosives)

S/068/63/000/001/003/004  
E071/E136

AUTHORS: Chen, N.G., Sorkin, M.M., Pedan, A.A., and  
Kogan, M.G.

TITLE: An investigation of various methods of combating the  
scale formation and corrosion of metal

PERIODICAL: Koks i khimiya, no.1, 1963, 46-57

TEXT: A comparative investigation of the effect of magnetic, phosphate and "coking works" methods of treatment of water used for cooling in heat exchangers was carried out in a laboratory. The "coking works" method of treatment of cooling water consists of adding to it the works phenolic effluent. This method was the most effective in preventing scale formation. The magnetic treatment decreases the corrosive action of the water only insignificantly. Moreover, an intense corrosion of metal was noticed in the sector of direct action of the magnetic field. Sodium phosphate in a concentration of 2 mg/litre (calc. as  $P_2O_5$ ) does not inhibit corrosion, but in a mixture with calcium bicarbonate (10 mg - equiv/litre) has a protective influence. Phenolic water from the coking works has a particularly strong

Card 1/2

An investigation of various ...

S/068/63/000/001/003/004  
E071/E136

passivating effect on metal if it contains some creosote oil.  
The presence of a large amount of tar in the water leads to the  
activation of metal.

There are 2 figures and 2 tables.

ASSOCIATION: Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz  
(Dneprodzerzhinsk Metallurgical Works - vtuz)  
(Chen, N.G.); Bagleyskiy koksokhimicheskiy zavod  
(Bagley Coking Works) (Sorkin, M.M., Pedan, A.A.  
and Kogan, M.G.).

Card 2/2

KOPTEV, G.P.; SORKIN, M.M.

Improvements in the design of saturators. Koks i khim. no.10:  
37-40 '63. (MIRA 16:11)

1. Bagleyskiy koksokhimicheskiy zavod.

KOLYANDR, L.Ya.; PUSTOVIT, Yu.A.; SORKIN, M.M.; NEKRASOV, A.Ya.;  
MIKHNO, S.I.

Discussing the article "Removal by adsorption of carbon disulfide in the preparation of high-purity benzene" by V.E.Privalov, A.P.Kolesov, V.Z.Sokolov ("Koks i khimiia," no.2, '62) and of the article "Preparation of sulfur-free benzene from pure benzene by means of chemical purification methods ("Koks i khimiia," no.3, '62) by V.E.Privalov, T.A.IAroslavskaya, N.Kh.Cherkasov, and I.A.Levantovich. Koks i khim. no.2:62-63 '64. (MIRA 17:4)

1. Ukrainskiy uglekhimicheskiy institut (for Kolyandr, Pustovit).
2. Bagleyskiy koksokhimicheskiy zavod (for Sorkin, Nekrasov, Mikhno).

ORLOV, M.L.; TUMARKIN, L.A.; YEPIMAKHOV, N.M.; SORKIN, M.M.; KOPTEV, G.P.

Improving the process of the primary separation of crude benzol.  
Koks i khim. no.3:36-41 '64. (MIRA 17:4)

1. Ukrainskiy uglekhimicheskiy institut (for Orlov, Tumarkin).
2. Bagleyskiy koksokhimicheskiy zavod (for Yepimakhov, Sorkin, Koptev).



SORKIN, M. T.

Stucco

Mechanized finishing of building facades with decorative stucco. *Biul. stroi. tekhn.*  
9 no. 14, 1952.

Monthly List of Russian Accessions, Library of Congress. November, 1952. Unclassified.

SOBKIN, M.Ye., inzh.

Nomogram for determining the pH of the equilibrium saturation  
of water by calcium carbonate. Vod. 1 san. tekhn. no.10:29-30  
0 '65. (MIRA 18:11)

SORKIN, M.Z.

Case of spontaneous pneumothorax in a solitary lung. Probl.tub. 37  
no.6:99-101 '59. (MIRA 13:2)

1. Iz khirurgicheskogo otdeleniya (zaveduyushchiy - kand.med.nauk  
R.E. Kogan) Moskovskoy gorodskoy tsentral'noy klinicheskoy tuberku-  
leznoy bol'nitsy (glavnyy vrach - prof. V.L. Rynis) i khirurgicheskoy  
kliniki Instituta tuberkuleza AMN SSSR (zaveduyushchiy - prof. L.K.  
Bogush).

(LUNGS abnorm.)  
(PNEUMOTHORAX compl.)

SORKIN, M. Z.

Surgical treatment of pulmonary hemorrhages in pulmonary tuberculosis. Probl. tub. no.7:50-55 '61. (MIRA 14:12)

1. Iz otdeleniya torakal'noy khirurgii (zav. - kandidat meditsinskikh nauk R. E. Kogan, konsul'tant - chlen-korrespondent AMN SSSR prof. L. K. Bogush) Moskovskoy gorodskoy Tsentral'noy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach - zasluzhennyy deyatel' nauki prof. V. L. Eynis)

(TUBERCULOSIS) (LUNGS—SURGERY)

SORKIN, M.Z. (Moskva)

Present-day treatment for tuberculosis. Fel'd. i akush. 26 no.10:  
7-11 0 '61. (MIRA 14:11)

(TUBERCULOSIS)

SORKIN, M. Z. (Moskva, G-48, Kooperativnaya ul. d. 2, kor. 12, kv. 35)

Case of a foreign body in the chest cavity. Grud. khir. no.5:  
109-110 '61. (MIRA 15:2)

1. Iz legochno-khirurgicheskogo otdeleniya (zav. - kandidat meditsinskikh nauk R. E. Kogan) Moskovskoy gorodskoy Tsentral'noy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach - prof. V. L. Eynis).

(LUNGS—FOREIGN BODIES)

MATLIN, Semen L'vovich; TRGITSKIY, L.V., red.; SHAKL, M.Z., red.

[Radio circuits; manual for radio clubs] Radioskhem; posobie dlia radiokruzhkov. Moskva, DOSAAF, 1965. 62 p.  
(MIRA 18:3)

SORKIN, N.B. :

34036 SORKIN, N.B. I MURABLIYEV, A.N. Na Sluzkbe  
Prom-shlennosti (Tsent. Nauch-Issled  
In-T Khlopkovoy Prom-St') Tekstil  
Prom-st; 1949, No. 10, S. 8-9

SO: Letopis' Zhurnal'nykh Statey, Vol. 42, Moskva, 1949



Страница 2. 11

Cotton Machinery

Manufacture of power-press equipment Khlepkovodstvo No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

RODICHEV, S.D.; MERKIN, I.B.; MILOKHOV, N.I.; POPELLO, A.P.; SOLOV'YEV,  
N.D.; SHEMSHURIN, N.A.; SORKIN, N.B., retsensent; SMIRNOV, I.I.,  
retsensent; ANDREYEV, Yu.I., retsensent; BRAVYY, Z.A., retsensent;  
SOKOLOVA, V.Ye., red.; MERDVEDEV, L.Ya., tekhn.red.

[Handbook on the primary processing of cotton] Spravochnik po  
pervichnoi obrabotke khlopka. Moskva, Gos.nauchno-tekhn.isd-vo  
lit-ry po legkoi promyshl., 1959. 687 p. (MIRA 13:4)  
(Cotton gins and ginning)

BORKIN, Petr Aronovich

[Worker occupied in the charge mixture preparation for  
open-hearth furnaces] Shikhtovshchik martenovskogo tsekha.  
Moskva, Metallurgiya, 1965. 77 p. (MIRA 19:1)

SORKIN, R.A.; ANIKIN, A.V.

X-ray spectrographic determination of strontium in rocks and concentrates. Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol. nauk  
no. 2: 13-18 '62. (MIRA 15:4)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.  
(Strontium--Spectra)

SORKIN, S., red.; POKHLEBKINA, M., tekhn. red.

[Do you use the land correctly?]Pravil'no li vy ispol'zujete  
zemliu? Moskva, Mosk. rabochii, 1962. 108 p. (MIRA 16:3)  
(Agriculture)

SORKIN, S. L.,     NAZAROV, F. G.

Soil Moisture

Accumulating moisture in soil by means of a furrowing machine and a claw cultivator. Les  
khoz. 5 no. 3(42), 1952

Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

ALEKSANDROV, Grigoriy Yakovlevich; SORKIN, S., redaktor; LIL'YE, A.,  
tekhnicheskiiy redaktor

[Tractor brigade leader's manual] Pamiatka brigadira traktornoi  
brigady. [Moskva] Moskovskii rabochii, 1956. 510 p. (MLRA 9:10)  
(Tractors)

SORKIN, S.S..

Lenin and "Lesnye poliany" State Farm. Nauka i pered. op. v sel'khoz.  
7 no.11:72-74 N '57. (MIRA 10:11)  
(State farms) (Lenin, Vladimir Il'ich, 1870-1924)



MININ, Mikhail Kuz'mich; SORKIN, S., red.; PAVLOVA, S., tekhn.red.

[New wage system at the "Shugarovo" State Farm] Novoe v oplate  
truda v sovkhose "Shugarovo." Moskva, Mosk.rabochii, 1960.  
47 p. (MIRA 13:5)

1. Direktor sovkhosa "Shugarovo", Moskovskoy oblasti (for Minin).  
(State farms) (Wages)

SORNNIN, S.; KUZNETSOVA, A., tekhn. red.

[State farm director] Direktor sovkhoza. Moskva, Mosk. rabochii,  
1961. 127 p. (MIRA 15:4)

(Farm management)

SORKIN, S., red.; RUZHETSOVA, A., tekhn. red.

[Sugar beet is the storeroom of feed units] Sakharnaya  
svekla - kladovaya kormovyykh edinit. Moskva, Mosk.  
rabochii, 1962. 75 p. (MIRA 15:10)  
(Moscow Province--Sugar beets)

ACC NR: AR6035102

SOURCE CODE: UR/0137/66/000/008/G021/G022

AUTHOR: Sorkin, V. A.

TITLE: Direct production of refractory metals and their compounds with the aid of a high-intensity electric arc

SOURCE: Ref. zh. Metallurgiya, Abs. 8G211

REF SOURCE: Elektrotermiya, Nauchno-tekhn. sb., vyp. 49, 1966, 49-53

TOPIC TAGS: refractory metal, refractory ore, refractory product, *ELECTRIC*  
*ARC*

ABSTRACT: A process is described for the direct production of pure metals and their compounds directly from ores and concentrates with the aid of a high-intensity electrical arc; the process is the most expedient for the following high-melting ores and concentrates: W, Mo, Ta, Ti, Nb, V, Zr, Be, and Si. The mechanism of the process of direct treatment of ores and concentrates is described, along with a diagram of the plasma unit. The bibliography contains 17 titles. G. Svordtseva.  
[Translation of abstract] [NT]

SUB CODE: 11/

Card 1/1

UDC: 669.85/.86.044

USSR/Chemical Technology. Chemical Products and Their Application -- Treatment of natural gases and petroleum. Motor fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5490

Author: Myagkov, V. Ya., Sorkin, Ya. G.

Institution: None

Title: Ways of Improving the Utilization of Water and Heat at Petroleum Distilleries

Original  
Publication: Neft. kh-vo, 1956, No 4, 50-61

Abstract: The inefficient utilization of water and heat at the modern petroleum distilleries is noted, as well as the use of condensers, heat exchangers and cooling systems of unsatisfactory design. There are listed the first-priority measures to be taken in order to improve the utilization of water and put into effect composite systems of power- and water utilization.

Card 1/1

SORKIN, Ya.G.; SOKOV, Yu.F.; SANNIKOV, I.A.; MIKITINA, L.G.

Operation of an assembly for catalytic reforming on a  
platinum catalyst. Khim. i tekhn. topl. i masel 5 no. 11:8-  
11 N '60. (MIRA 13:11)

(Cracking process)

SORKIN, Ya.S.; NEL'KENBAUM, Ya.I.; MAMINA, F.A.

New nonionogenic demulsifiers for eastern oils. Trudy Bash NIINP no.5:  
322-332 '62. (MIRA 17.10)

1. Chernikovskiy neftepererabatyvayush hiy zavod.

SORKIN, Ya.G.; NEL'KENBAUM, Ya.I.; GABDRAKHMANOV, F.Kh.; KHAKIMOV, F.G;  
SAYFUTDINOV, M.Z.

Industrial testing of the OKO nonionogenic demulsifying compound  
on Romashkino oils. Khim.i tekhn.topl.i masel 7 no.9:24-27  
S '62. (MIRA 15:8)

1. Chernikovskiy neftepererabatyvayushchiy zavod.  
(Chernikovsk--Petroleum--Refining) (Emulsions)



SORKIN, Ya.G.

Ways to reduce the cost of construction of petrochemical  
plants. Khim. i tekhn. topl. i masel 10 no.3:1-4 Mr '65.  
(MIRA 18:11)

1. Bashneftezavody.

SORKIN, Ya.I.; NEL'KENBAUM, Ya.I.; MAMINA, F.A.

Vat residues of fatty acids as raw materials for the production of  
non-ion-forming demulsifiers. Khim.i tekhn. topl.i masel 6 no.2:  
28-32 F '61. (MIRA 14:1)

1. Chernikovskiy neftepererabatyvayushchiy zavod.  
(Acids, Fatty) (Emulsions)

SORKIN, Ye.K.

Bracings for gagers. Lit.proizv. no.2:29 Mr-Ap '54. (MLRA 7:4)  
(Founding)

SORKIN, Ye.K.

A tilting and floating chuck. Stan.1 instr. 26 no.11:36 N '55.  
(Chucks) (MLRA 9:2)

SORKIN, Y. K.

Self-centering vise. Stan. 1 instr. 28 no. 5:37 My '57.  
(Vise) (MIRA 10:6)

SORKIN, Ye.K. .

Attachment for lapping ball joints. Mashinostroitel' no.3:22 Mr '61.  
(MIRA 14:3)

(Grinding machines)

72-1-11/13

AUTHOR: Sorkin, Ye. S.

TITLE: A Double Small-Dimension Electron Relay With Grid Contact  
(Malogabaritnyye sdvoyennyye elektronnyye rele s setochnym kontaktom)

PERIODICAL: Steklo i Keramika, 1958, Nr 1, pp. 29 - 30 (USSR)

ABSTRACT: A relay is used in the wiring schemes of the automatic control of pressure in the gas chamber of a continuous glass melting furnace, of the level of glass mass, water, and other liquids. It may be used in all cases in which as a controlled ("command") impulse for regulation the earthing of the grids of an electron tube is used. By means of the relay ЭСР-2 the sensitivity of the controlling- and measuring systems is considerably increased. Figure 2 shows two types of double small-dimension electron relays with grid contact and electron tubes of the type 6H 15П. They had been developed and produced by the experimental glass works of the Institute for Glass. On the left is the type ЭСР-2М-60, and on the right the type ЭСР-2М-30 is shown. The new relays have small dimensions, consume less electric energy than the old ones of the type ЭСР-2, and their production costs are lower. Figure 2 shows their basic wiring schemes. As may be seen herefrom, the re-

Card 1/2

AUTHOR: Sorkin, Ye. S. SOV/72-59-10-11/18

TITLE: New Construction of a Dilatometer (Novaya konstruktsiya dilatometra)

PERIODICAL: Steklo i keramika, 1958, Nr 10, pp 40-42 (USSR)

ABSTRACT: The dilatometer constructed by the author measures the difference in expansion between the sample to be investigated and the quartz glass the thermal expansion coefficient of which is comparatively small. In the figures 1 and 2 its construction is shown. The ceramic furnace parts of the dilatometer were manufactured according to data supplied by Professor N. V. Solomin, Doctor of Technical Sciences. Then a detailed description of the dilatometer is given. A measuring instrument with a 0,001 mm scale and a measuring range of 0 - 1 mm is used as indicator. In contrast to the dilatometers hitherto in use the temperature of the sample itself and not that of the furnace is measured. An equal increase in temperature is obtained by the change of the amperage in the furnace winding. The relative measuring error was found to be 0,3 % in the case of lime-containing sodium glass, and 0,6 % in the case of boron silicate glass.

Card 1/2



New Construction of a Dilatometer

SOV/72-58-10-11/18

There are 2 figures.

Card 2/2

ACCESSION NR: AT4019301

S/0000/63/003/001/0123/0126

AUTHOR: Ty\*kachinskly, I. D.; Sorkin, Ye. S.

TITLE: Investigation of the variation in the physical properties of glass of the lithium oxide-alumina-silica system during its crystallization

SOURCE: Simpozium po stekloobraznomu sostoyaniyu. Leningrad, 1962. Stekloobraznoye sostoyaniye, vy\*p. 1: Katalizirovannaya kristallizatsiya stekla (Vitreous state no. 1: Catalyzing crystallization of glass). Trudy\* simpoziuma, v. 3, no. 1 Moscow, Izd-vo AN SSSR, 1963, 123-126

TOPIC TAGS: glass, glass crystallization, glass physical property, aluminosilicate, lithium glass

ABSTRACT: The authors investigated the changes in the physical properties, such as density, refractive index, coefficients of thermal expansion and light transmittance, as well as the deformation under isothermal static compression, of glasses of the  $\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$  system during crystallization as a function of the time of exposure at different temperatures. The experimental curves show that at any temperature of exposure in the investigation range, the density and refractive index asymptotically approached the same limiting value. The coefficient of light transmittance approached zero asymptotically. Deformation curves

Card 1/2

ACCESSION NR: AT4019301

for glass under static compression at different temperatures are given, and the correlation between the character of the deformation and the changes in physical constants is plotted at a temperature of thermal treatment of 710C. On plotting the same curves at other temperatures, in the same time interval, it could be seen that the deformation curves of isothermal static compression reveal changes in the physical properties of the initial glass during its crystallization. Compression tests on samples of initial glass of the  $\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$  system using other mineralizers showed that the deformation curves have an analogous slope. Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 17May63

DATE ACQ: 21Nov63

ENCL: 00

SUB CODE: MT

NO REF SOV: 004

OTHER: 003

Card 2/2

L 13834-63 EPR/EPF(c)/EPF(n)-2/EWP(q)/EWT(m)/BDS/T-2/ES(s)-2/ES(w)-2  
 AFFTC/ASD/SSD Ps-l/Pr-l/Pu-l/Pt-l/Pab-l WW/WH  
 ACCESSION NR: AP3003860 8/0020/63/151/003/0628/0630

AUTHOR: Sorkin, Ye. S.; Vaysfel'd, N. M.

TITLE: Structural changes in certain glasses on "sitalization"

SOURCE: AN SSSR. Doklady\*, v. 151, no. 3, 1963, 628-630

TOPIC TAGS: lithium-alumina-silica glass, crystalline glass material, "sital" pyroceram, crystallization, heat treatment, "sitalization", titanium dioxide, zirconium dioxide, electron micrograph, crystal seed, crystal structure, compression, thermal expansion, density, refraction index, light transmission, titanium dioxide catalyst, zirconium dioxide catalyst, pyroceram, pyroceram crystallization catalyst.

ABSTRACT: Crystallization by heat treatment or "sitalization" (pyroceram-type material formation) has been studied in two  $\text{Li}_2\text{O}-\text{Al}_2\text{O}_3-\text{SiO}_2$  glasses by electron microscopy. A correlation was established between the structural modifications observed in this study and the variations in physical properties determined by K. S. Sorkin (Optiko-mekhan. promyshlennost', no. 10, 33 (1962)). In the present study, a Tesla BS-242A electron microscope was used with a direct magnification of

Card 1/32

L 13834-63

ACCESSION NR: AP3003860

3000—4000 and subsequent photo-enlargement. Glass No. 1 contained  $\text{TiO}_2$  and glass No. 2,  $\text{ZrO}_2$  crystal seeds (catalysts). The glasses were heat treated at 7100 and 7750, respectively. Electron micrographs of the glasses show a similar pattern of structural changes in both cases. The first sharp change, the emergence of a primary crystalline phase, takes place after 1 hr in No. 1 and 2 1/2 hr in No. 2. The second change, occurring after 2 1/2 hr in No. 1 and 3 1/3 hr. in No. 2 is attributed to the completion of the growth of this primary phase and the onset of its transformation into a secondary crystalline phase. X-ray analysis of glasses No. 1 and 2 showed spherical droplet-like particles with crystalline structure in both the primary and secondary phases. The secondary and final structure is identical in both glasses, although the particle size in glass No. 2 is greater, owing to the higher treatment temperature. However, the structure of the primary crystalline phase in the initial crystallization stage is different in the two glasses because of the substitution of  $\text{ZrO}_2$  for  $\text{TiO}_2$ . The two sharp modifications of the structure -- formation of the primary phase and its transformation into the secondary -- appear at the same time as inflections on the curves of time versus compression, thermal expansion, density, index of refraction, and total light transmission. The article was presented by Academician P. A. Rebinder, 2 April 1963. Orig. art. has: 3 figures.

ASSOCIATION: State Scientific Research Institute of Glass

Card 2/32

TYKACHINSKIY, I.D.; SORKIN, Ye.S.

Investigating changes in the physical properties of glass in the system  $\text{Li}_2\text{O} - \text{Al}_2\text{O}_3 - \text{SiO}_2$  in the process of the formation of pyroceramics. Stekloobr. sost. no.1:123-126 '63.

(MIRA 17:10)

SORKIN, Ye. S.

"On connection of glass structure variation in the process of formation of glass-ceramic material with its thermal expansion."

report submitted for 4th All-Union Conf on Structure of Glass, Leningrad, 16-21 Mar 64.

L 11870-66 ENT(m)/ENP(b)/ENP(e) 35/ WH

ACC NR: AT6000504

SOURCE CODE: UR/0000/65/000/000/0356/0360

AUTHOR: Sorkin, Ye. S. 44.55

ORG: None

TITLE: Thermal expansion and structure of crystallizing glasses 44

SOURCE: Vsesoyuznoye soveshchaniye po stekloobraznomu sostoyaniyu. 4th, Leningrad, 1964. Stekloobraznoye sostoyaniye (Vitreous state); trudy soveshchaniya, Leningrad, Izd-vo Nauka, 1965, 356-360 44.55

TOPIC TAGS: lithium glass, silicate glass, catalyzed crystallization, thermal expansion, crystallization, chemical precipitation

ABSTRACT: From the standpoint of the theory of catalyzer-induced glass crystallization. It is interesting to compare the changes in thermal expansion and other physical constants with the changes in the structure of lithia-aluminosilica glass during the glass crystallization process. The author, consequently, carried out a complex study of the glasses with a composition close to spodumene during the isothermal crystallization process. Original samples differed in the type of catalyzer only ( $\text{TiO}_2$ ,  $\text{ZrO}_2$ , and  $\text{SnO}_2$ ). The results cover the changes in compression deformation, mean coefficient of thermal expansion, density, index of refraction, and coefficient of total light transmission as a function of annealing time at 740C, and the dilatometric curves of the glass-crystal samples following heat treatment at 740C. The analysis of the results shows that the peculiarities of each stage of the catalyzed crystallization affect the characteristic of the dilatometric curve. Consequently, Card 1/2



E 11370-56

ACC NR: AT6000504

dilatometry appears as a very sensitive potential investigation method of the stratification of glasses during the first stages of heat treatment and of the precipitation and crystallization of the basic crystalline phases. Orig. art. has: 2 figures.

SUB CODE: 11, 20 / SUBM DATE: 22May65 / ORIG REF: 001

jw  
Card 2/2

SORKIN, Yu.E. (Sverdlovsk)

25th anniversary of D.K.Zabolotnyi's death (1866-1929) Fel'd.  
i akush. no.9:22-25 8 '54. (MLRA 7:11)

(HISTORY, MEDICAL

contribution of D.K.Zabolotnyi)

(ZABOLOTNYI, DANIIL KIRILLOVICH, 1866-1929)

POPUGAYLO, V.M., podpolkovnik med.sluzhby, SORKIN, Yu.I., LAMANOV, P.P.,  
podpolkovnik med.sluzhby

Conducting a general rat extermination in populated areas. Voen.  
med.zhur. no.12:80 D'57 (MIRA 11:5)  
(RATS--EXTERMINATION)

SORKIN, Yu.I.; SYCHEVSKIY, P.T.

Finds of flea larvae in the hair of predatory mammals. Izv. Irk.  
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1. SOROKIN, YU. I.
2. USSR (600)
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7. Independent systems of axioms determining a lattice. Ukr. mat. zhur. No. 1 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

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USSR/Mathematics - Lattice Theory

May/Jun 52

"Free Unions of Structures," Yu. I. Borstin, Moscow

"Matemat Sbor" Vol XXX (72), No 3, pp 677-694

Recently theories of free products of algebras and projective planes (A. G. Kurosh, A. I. Zhukov, L. I. Kopeykina) have appeared along with earlier theories of free products of groups. The observed parallelism of these 3 theories suggested the possibility of constructing an analogous theory also for structures which would generalize the

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theory of free structures studied by Whitman. In the current article the author determines the unions of structures (by Dilworth's method) and clarifies certain properties of the free union of structures. Submitted 15 Jan 52.

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1. 1. 1.

"On the Determination of Structure." Dokl. Akad. Nauk SSSR, 1954, 10, 10, 10. (1954, 10, 10, 10)

SC: 10, 10, 10, 10, 10, 10



SORKIN, Yu.I.

Embedding of groupoids and lattices. Dokl. AN SSSR 95 no.5:931-934  
Ap '54. (MLRA 7:4)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut im. V.I.Lenina.  
Predstavleno akademikom A.N.Kolmogorovym.  
(Lattice theory)

SORKIN, Yu.I.

Rings as sets with a singular operation which obeys a unique  
identity. Usp.mat.nauk 12 no.4:357-362 J1-Ag '57. (MIRA 10:10)  
(Rings (Mathematics))

SORKIN, Yu. I.

16(1) PHASE I BOOK EXPLOITATION SOV/260  
Vsesoyuzny matematicheskiy s'ezd. 3rd, Moscow, 1956  
Trudy. t. 4: Kratkoye soderzhanie sektsionnykh dokladov. Doklady  
Inostrannykh uchenykh (Transactions of the 3rd All-Union Mathema-  
tical Conference in Moscow. vol. 4: Summary of Sectional Reports.  
Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959.  
247 p. 2,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy Institut.  
Tech. Ed.: G.M. Shevchenko; Editorial Board: A.A. Abramov, V.O.  
Mitsynskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshais, S.M.  
Mikheevskiy (resp. Ed.), A.G. Pogodin, Yu. V. Prokhorov, M.A.  
Rabinovich, P. L. Ul'yanov, V.A. Uspenskiy, M.G. Chetayev, G. Ye.  
Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-  
Union Mathematical Conference, held in June and July 1956. The  
book is divided into two main parts. The first part contains num-  
bered papers presented by Soviet scientists at the Con-  
ference that were not included in the first volumes. The  
second part contains the text of reports submitted to the editor  
by foreign scientists. In those cases to the editor, the title  
of the paper is cited and, if the paper was printed in a previous  
volume, reference is made to the appropriate volume. The papers,  
both Soviet and non-Soviet, cover various topics in number theory,  
algebra, differential and integral equations, function theory,  
functional analysis, probability theory, topology, mathematical  
problems of mechanics and physics, computational mathematics,  
mathematical logic and foundations of mathematics, and the  
history of mathematics.

Section on Differential and Integral Equations  
Karpolevich, P.I. (Moscow). Semisimple subgroups of real  
groups 10  
Burtakov, V.A. (Sverdlovsk). Solvable equations of prime  
power 11  
Ruhnamadshah, Kh. Kh. (Sverdlovsk). On the theory of in-  
finite solvable groups 12  
Sorkin, Yu. I. (Moscow). Rings as sets with one operation  
subjected to a single identity 13  
Section on Differential and Integral Equations  
Andrianov, G.M. (Kazan'). Integral equations of inverse  
boundary value problems 14  
Vinograd, B.M. (Moscow). On the upper bound of characteristic  
indices in small perturbations 14  
Vishik, M.I. (Moscow). Solution of boundary value problems  
for elliptic equations in certain functional spaces 14

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C111/C222

/6.2000

AUTHOR: Sorkin, Yu.I.  
TITLE: On distributive quasigroups

PERIODICAL: Referativnyy zhurnal. Matematika, no.8, 1960, 32,  
abstract no.8639. Uch. zap. Mosk. gos. zaochn. ped. in-ta.  
Ser. fiz.-matem., 1959, no.3, 82-92

TEXT: The quasigroup  $Q(\cdot)$  is called distributive if  $a \cdot bc = ab \cdot ac$ ,  
 $bc \cdot a = ba \cdot ca$  holds for arbitrary  $a, b, c \in Q$ . A polynomial  $f(x)$  is a word  
(with a certain distribution of brackets) with respect to the elements  
of  $Q$  and a certain symbol  $x$ . The number of symbols  $x$  is called the  
degree of  $f(x)$ . Elements of  $Q$  appearing in  $f(x)$  are called parameters.  
In the present paper the author investigates equations of the kind

$$f_1(x, a) = f_2(x, a), \quad (1)$$

where  $f_1, f_2$  are polynomials of first degree with one parameter. It is  
proved that all solutions of (1) form a Lagrange subquasigroup  $H$ , i.e.  
a subgroup so that the classes with respect to  $H$  either are identical  
or have no common elements. In connection with (1) the author investigates

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